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"Front surface mirrors" with aluminum reflecting surfaces are recommended for maximum or precise reflectivity in a report now available from the Office of Technical Services of the U. S. Department of Commerce.

The report, a summary of studies by the Army Engineer Research and Development Laboratories, indicates that a silicon monoxide film provides superior protection against abrasion, corrosion and thermal shock without causing significant loss of mirror reflectivity in the visible or infrared spectrum. Magnesium fluoride protection was found considerably more susceptible to corrosion.

Evaporated aluminum was found more suitable as a reflecting surface than silver because of finer grain, smoother surface, and good adherance to the mirror base.

The front surface mirror, which, like conventional mirrors, has a glass base, overcomes the loss of reflecting power and the tendency toward dual reflections noticed when the reflecting surface is placed behind the glass. In optical equipment, for example, back-surface mirrors have definite drawbacks. In outdoor use, however, the front surface mirror must be protectively coated.

PB 92821, Silicon Monoxide Front Surface Mirrors, 30 pages including photographs, drawings, graphs and tables, sells for 75 cents per copy. Orders should be addressed to the Office of Technical Services, U. S. Department of Commerce, Washington 25, D. C., accompanied by check or money order payable to the Treasurer of the United States.

An additional more recent Engineer Research and Development laboratory report deals with Preparation of Hard Oxide Films on Aluminum Surfaces and Applications of Such Films (34 pages including drawings, photos, graphs and tables--$2.25 in microfilm, $5 in photostat). Orders for this report should be addressed to the Library of Congress, Photoduplication Service, Publication Board Project, Washington 25, D. C. accompanied by check of money order payable to the Librarian of Congress.

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